

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 3 and 5, 9-11 are pending in the application. Claims 1, 3, 9 and 10 are amended; and Claim 8 is canceled without prejudice or disclaimer by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the Office Action, Claims 1, 3, 5, 8 and 11 are rejected under 35 U.S.C. § 103(a) as unpatentable over Harel et al. (U.S. Pat. No. 6,128,472, Harel) in view of Beckmann et al. (U.S. Pub. 2003/0022683, Beckmann) and Kall et al. (U.S. Pat. 7,149,195, Kall); and Claims 9-10 are rejected under 35 U.S.C. § 103(a) as unpatentable over Harel in view of Kall.

Claims 1, 3, 5, 8 and 11 are rejected under 35 U.S.C. § 103(a) as unpatentable over Harel in view of Beckmann and Kall. In response, Applicants respectfully submit that amended independent Claims 1 and 3 recite novel features clearly not taught or rendered obvious by the applied references.

Independent Claims 1 and 3 are amended to incorporate the subject matter of canceled Claim 8. Independent Claim 1, for example, recites a radio communication system performing multicast communication, wherein *a base station* comprises:

a response signal counter configured to *count the number of a plurality of response signals to a control signal for a multicast group...*
a judge configured to *judge whether the counted number of the plurality of response signals is more than a predetermined number*; and
a response signal transmitter configured to transmit, to a radio network controller, one response signal selected from the plurality of response signals, without waiting to receive a subsequent response signal transmitted from another mobile station, when the counted number of the plurality of response signals is more than the predetermined number,
wherein the one response signal selected from the plurality of response signals *includes information showing that the counted number of the*

¹ e.g. specification Figs. 13-14 and pp. 22-24.

plurality of response signals is more than the predetermined number, or the counted number of the plurality of response signals.

Independent Claim 3, while directed to an alternative embedment, is similarly amended. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1 and 3.

Turning to the applied references, Harel describes a message management system 310 provided between the central base station controller 112 (i.e. radio network controller) and the receivers 108, 109 (i.e. base stations).² More particularly, Harel describes that the message management system 310 receives inbound messages simultaneously transmitted from all mobile stations belonging to the multicast group, the inbound messages including an identifier of the multicast group.³ The message management system 310 then selects one message among inbound messages simultaneously transmitted from all mobile stations belonging to the multicast group, to direct to the central base station controller 112.⁴

Harel, however, as conceded at p. 3 of the Office Action fails to disclose “a response signal counter” and therefore also fails to disclose “a judge configured to ***judge whether the counted number of the plurality of response signals is more than a predetermined number*** ... and a response signal transmitter configured to transmit, to a radio network controller, one response signal selected from the plurality of response signals that... ***include[es] information showing that the counted number of the plurality of response signals is more than the predetermined number or the counted number of the plurality of response signals,***” as recited in amended independent Claims 1 and 3.

In an attempt to remedy the above noted deficiencies of Harel, the Office Action relies on Kall. Applicants, however, respectfully submit that Kall fails to teach or suggest the

² Harel, Fig. 3.

³ Id., col. 4, ll. 14-18, col. 5, ll. 4-7 and Fig., 4, step 420.

⁴ Id., col. 5, ll. 7-9, Fig. 4 step 430.

above noted features directed to the response signal transmitter and the contents of the response signal, as recited in amended independent Claims 1 and 3.

More particularly, Kall describes a radio network controller which processes transmission requests for requesting transmission of multicast data, the transmission requests received from a plurality of mobile stations in the multicast group. In rejecting the features directed to the contents of the response signal, as previously recited in Claim 8, the Office Action relies on col. 4, ll. 8-19 of Kall, which describes that the RNC 36 judges whether the number of mobile stations requesting transmission of multicast data is increased more than the selected level. The RNC 36 then unicasts multicast data when the number of mobile stations requesting transmission of multicast data is reduced below a selected level. RNC 36 RANcasts (multicasts) multicast data when the number of mobile stations requesting transmission of multicast data is increased more than the selected level.

Thus, Kall describes that the RNC 36 itself counts the number of requesting mobile stations in each cell and controls transmission of data based on whether this number exceeds or falls below a threshold. Therefore, Kall appears to describe a configuration in which each of the requests from each of the mobile stations is forwarded directly to the RNC 36 without being processed by the base station to reduce a load on the RNC 36, as is an object of the claimed configuration. More particularly, Kall fails to teach or suggest that a *base station* includes “a response signal counter configured to *count the number of a plurality of response signals to a control signal for a multicast group*... a judger configured to *judge whether the counted number of the plurality of response signals is more than a predetermined number*; and a response signal transmitter configured to transmit, to a radio network controller, one response signal selected from the plurality of response signals that... *include[es] information showing that the counted number of the plurality of response signals is more than the predetermined number or the counted number of the plurality of response signals*”

response signals,” as recited in amended independent Claims 1 and 3. Instead, as noted above, Kall describes that the RNC 36 directly receives each request for a broadcast or multicast service, which is the configuration intended to be avoided by the system defined in amended independent Claims 1 and 3.

Beckmann, the additional secondary reference, is relied upon only to show a radio network controller, and also fails to teach or suggest the above-noted features recited in amended independent Claims 1 and 3.

Accordingly, Applicants respectfully request that the rejection of Claims 1 and 3 (and Claim 11, which depends from Claim 3) under 35 U.S.C. § 103 be withdrawn.

Claims 9-10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Harel in view of Kall. Applicants respectfully traverse this rejection, as independent Claims 9 and 10 recite novel features clearly not taught or rendered obvious by the applied references.

Claim 9 recites, in part, a radio network controller supporting multicast communication, the radio network controller comprising:

a receiver configured to receive a response signal transmitted from at least one base station, the response signal including a same group ID identifying a same multicast group to which the mobile stations are requesting to join, and *including information showing that the number of response signals transmitted from mobile stations is more than the predetermined number...* [and]

a radio controller configured to perform delivery control on the mobile stations joining in the same multicast group *using a common circuit common to the mobile stations when the information showing that the number of response signals is more than the predetermined number* is extracted from the received response signal, and to *perform delivery control using respective individual circuits of the mobile stations when the information is not extracted from the received response signal.*

Claim 10 is also directed to a radio network controller and recites, in part, that the controller comprises:

a receiver configured to receive a response signal... *including the number of response signals transmitted from mobile stations* and

including a same group ID identifying a same multicast group to which the mobile stations are requesting to join... [and]

a radio controller configured to perform delivery control on the mobile stations joining in the same multicast group using a common circuit common to the mobile stations when the number of response signals extracted from the received response signal is more than a predetermined number, and to perform delivery control using respective individual circuits of the mobile stations when the number of response signals is not extracted from the received response signal.

In rejecting Claims 9 and 10, p. 6 of the Office Action concedes that Harel fails to disclose “response signals being more than a predetermined number” and “a response signal including the number of response signals transmitted from mobile stations.” In an attempt to remedy these deficiencies, the Office Action relies on Kall and asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to arrive at Applicants’ claims. Applicants respectfully traverse this assertion.

As discussed in detail above, Kall describes that the RNC 36 judges whether the number of mobile stations requesting transmission of multicast or broadcast data is increased more than the selected level, and controls a method of data transmission based on this determination. Thus, the RNC 36 in Kall receives the requests for data transmission from each of the mobile stations in each cell under control of the RNC 36.

In clear contrast, Claims 9 and 10 recite that a *radio network controller receives* a response signal “including information showing that the number of response signals transmitted from mobile stations is more than the predetermined number” or “including the number of response signals transmitted from the mobile stations.” Thus, the claimed radio network controller receives information that has already been summarized by a base station to more simply reflect a number of received response signals without having to forward each and every response signal to the radio network controller. As described in the background portion of the specification, such a configuration greatly reduces the load on the network by

limiting the responses sent from each of the base stations to the radio network controller.

Kall fails to teach or suggest such a configuration, but instead describes that the radio network controller, itself, receives each of the requests from the mobile stations in each cell that the RNC 36 controls.

Therefore, Kall does not disclose or suggest that the radio network controller receives a response signal *including information showing that the number of response signals transmitted from mobile stations is more than the predetermined number*, as recited in independent Claim 9.

Similarly, Kall also fails to teach or suggest that the radio network controller receives a response signal *including the number of response signals transmitted from mobile stations*, as recited in independent Claim 10.

Further, Harel and Kall, neither alone, nor in combination, teach or suggest that the radio network controller performs delivery control on the mobile stations joining the same multicast group using *a common circuit common to the mobile stations or using respective individual circuits of the mobile stations* in accordance with the information extracted from the received response signal or the number of the plurality of response signals extracted from the received response signal, which are also features required by amended independent Claims 9 and 10.

Accordingly, Applicants respectfully request that the rejection of independent Claims 9 and 10 under 35 U.S.C. § 103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1, 3, 5 and 9-11 is patentably distinguish over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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